



The National Animal Health Reporting System (NAHRS)

USDA:APHIS:VS Centers for Epidemiology and
Animal Health (CEAH)

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NAHRS What is it?

- The National Animal Health Reporting System (NAHRS) is a joint effort of the US Animal Health Association (USAHA), the American Association of Veterinary Laboratory Diagnosticians (AAVLD), and the USDA:Animal and Plant Health Inspection Service (USDA:APHIS).



NAHRS What is it? (cont.)

- Reporting system designed to collect data on the presence of confirmed Office International des Epizooties (OIE) LIST A and B clinical diseases in commercial livestock, poultry, and aquaculture species in U.S.
- Using well defined reporting criteria, the Chief Animal Health Official of the state reports OIE List A and B clinical disease for their state.



NAHRS: Data Use

- USDA APHIS VS utilizes the data to complete monthly/annual animal disease status reports to OIE and to support trade negotiations.
 - Utilize multiple sources in reporting to OIE (US has been reporting 25 yrs)
 - NAHRS adds credibility & validity



NAHRS: Data (cont.)

- The State Veterinarian has the final say on what is reported for his/her State.
- Individual producers are not identified in any of the NAHRS reports.
- Individual states not reported on U.S. OIE report. States see only their own data or U.S. summary data
- Data is not utilized or shared with any other program (i.e. National Animal Health Programs, etc..)



NAHRS History

- 1989 USAHA/AAVLD meeting.
 - Several countries far ahead of US in disease reporting systems/capabilities (New Zealand, Australia, Canada, Denmark, etc..)
 - Veterinary Diagnostic Laboratory Reporting System (VDLRS) and DxMONITOR Animal Health Report developed.
 - Diseases reported variable—no clear idea of what should be reported. Case definitions?



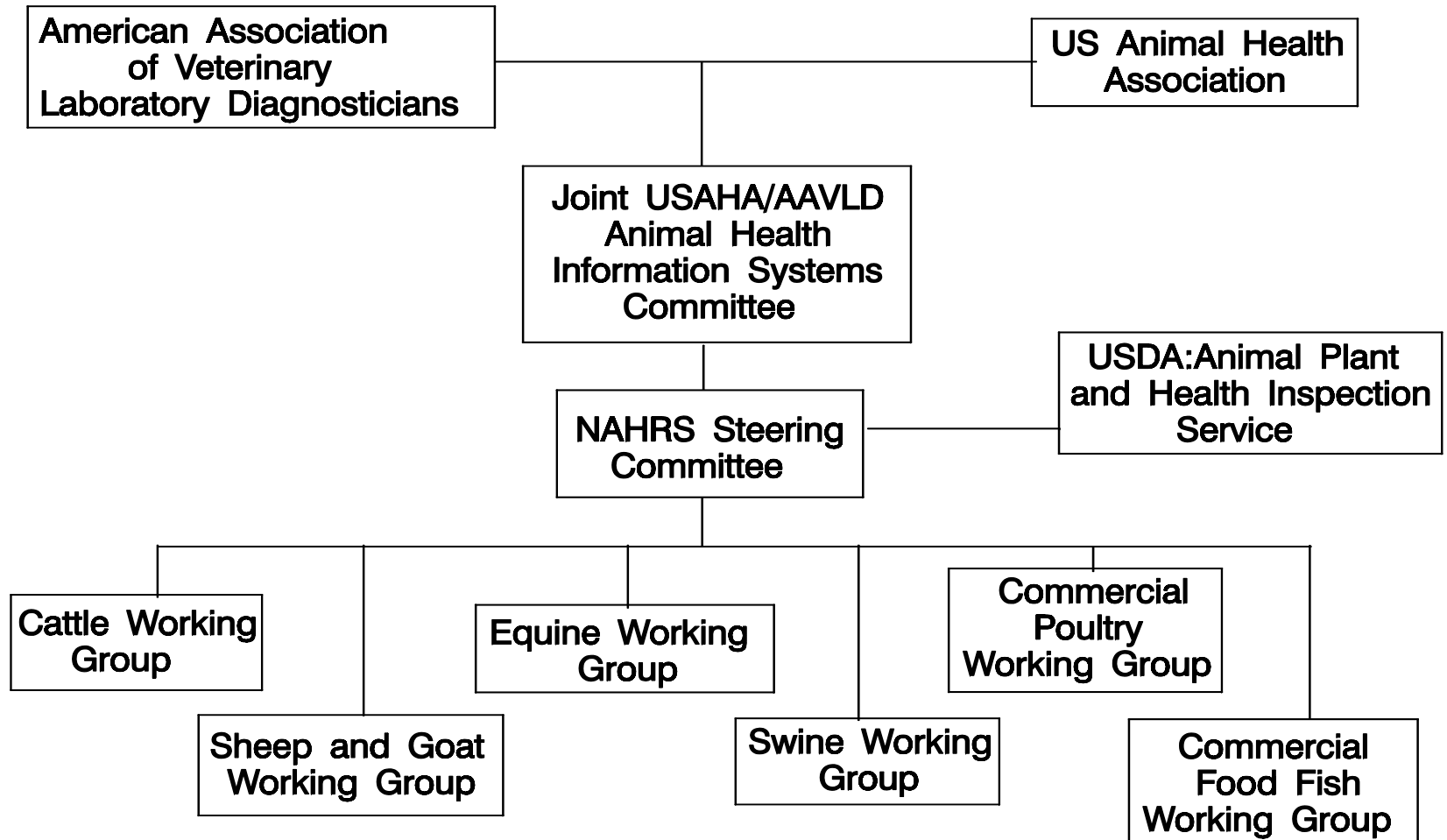
NAHRS History, continued

- 1995 USAHA/AAVLD meeting.
 - Redesign of VDLRS into a national animal health reporting system (NAHRS)
- 1996-7 - NAHRS steering committee identified the purpose of the NAHRS.
 - Facilitate movement and trade of animals and animal products nationally and internationally.
 - Identify emerging diseases and disease trends.
 - Utilize/adapt OIE LIST A & B diseases



NAHRS Committee Structure

National Animal Health Reporting Systems Committees

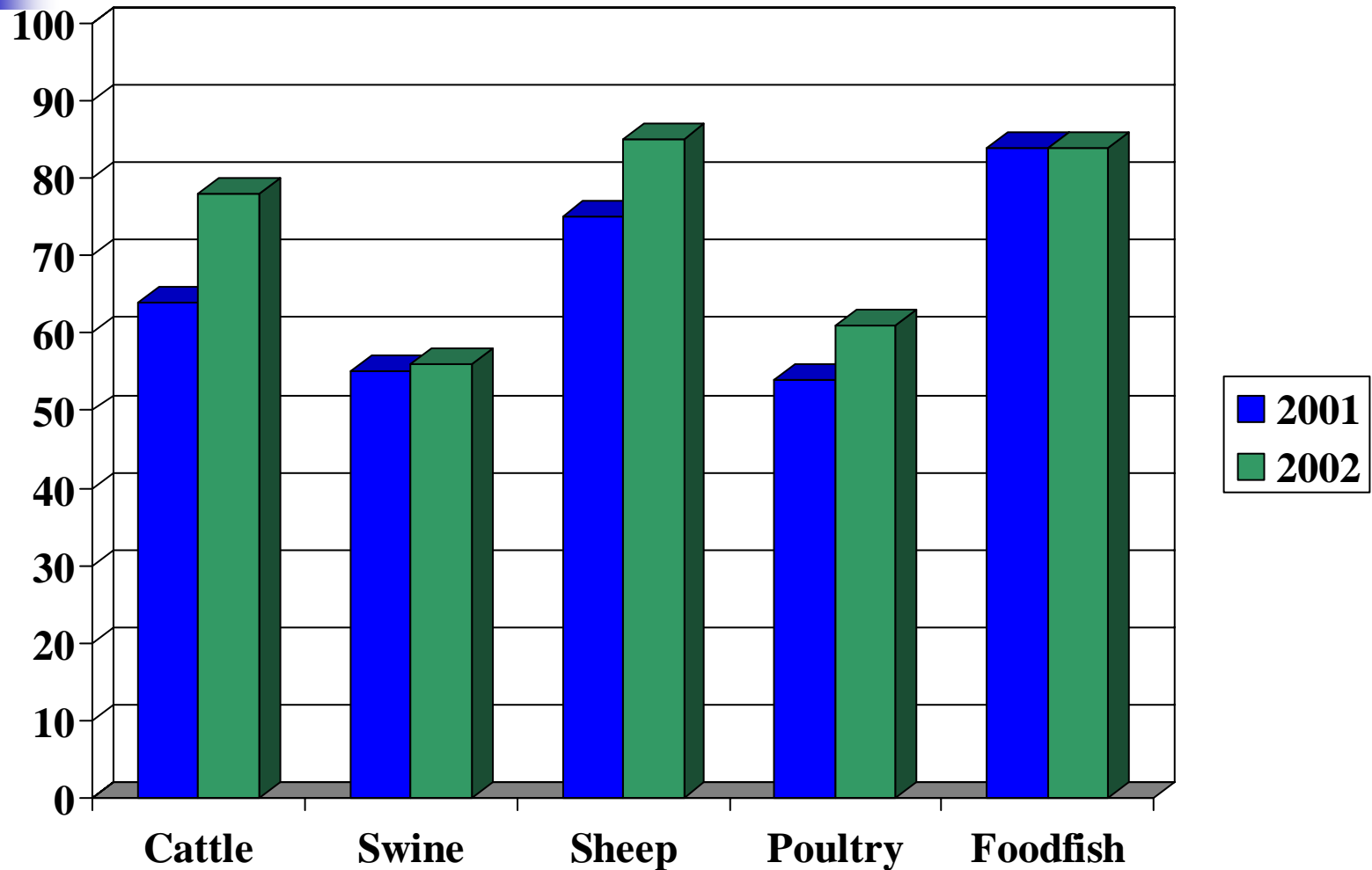




NAHRS History, continued

- 1998 - limited pilot of the NAHRS.
 - Found the NAHRS to be workable and the cost of participation not to be prohibitive.
- 1999 USAHA/AAVLD meeting – participation in NAHRS open to all.

% of Natl Production Value in States Participating in the NAHRS



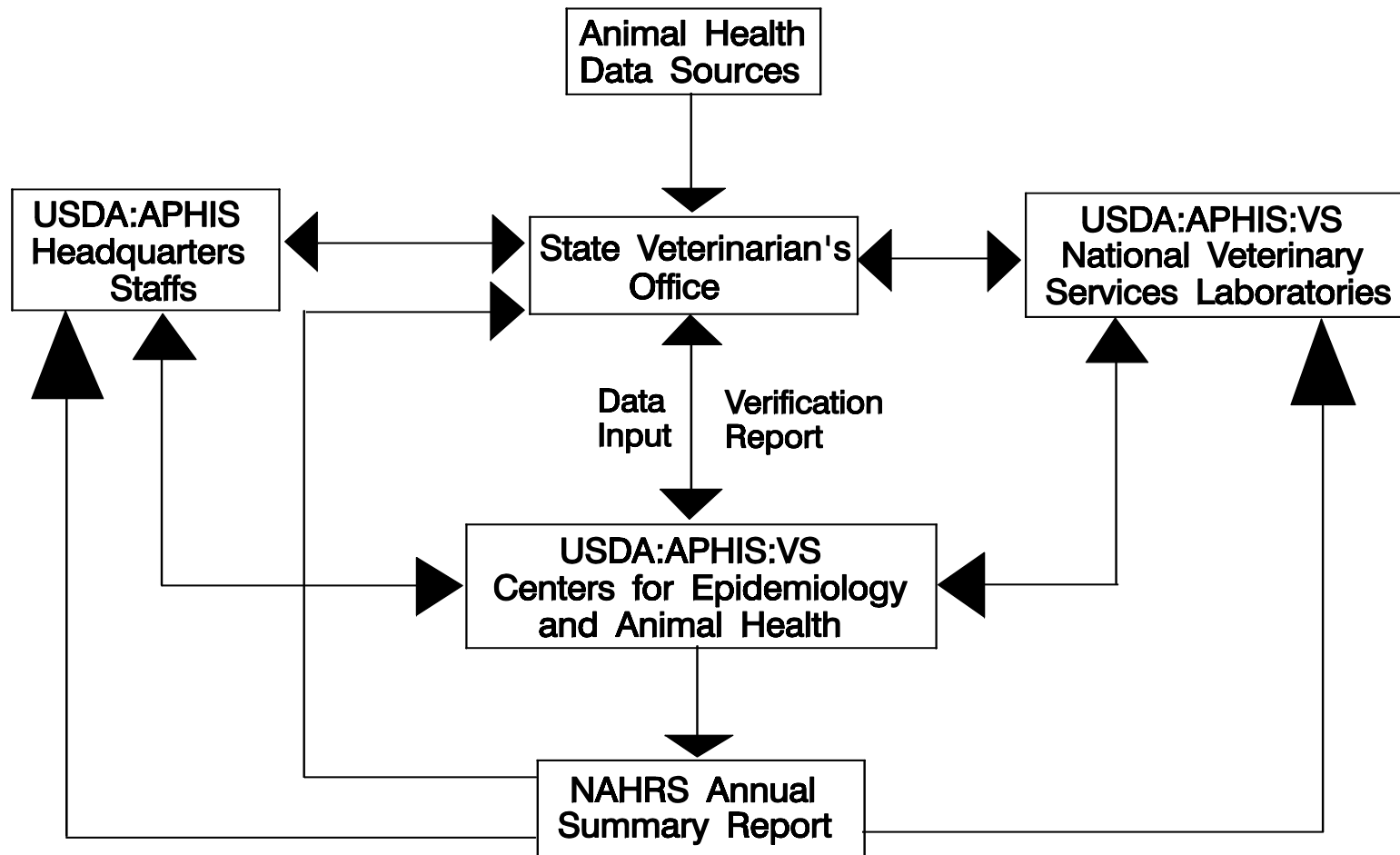


NAHRS Operation

- Presence of confirmed disease reported monthly (State Veterinarian/delegate)
- Multiple data sources used (veterinary labs, public health labs, federal agencies--VS/FSIS, veterinarians, etc.)
- Monthly validation reports generated and checked for accuracy.
- A summary verification report is distributed to APHIS Riverdale and NVSL staffs for review.

NAHRS Data Flow

National Animal Health Reporting Systems Data Flow





Sample NAHRS Reporting Criteria

A010 Foot and Mouth Disease (FMD)

Standard for Laboratory Testing:

OIE Manual, Ch. 2.1.1.

Reporting Criteria: This disease is a foreign animal disease for the U. S. A. The State/Federal Accredited Veterinarian is required to report all animal disease conditions whose differential diagnosis could include a foreign animal disease (Appendix A). A USDA-certified Foreign Animal Disease Diagnostician is assigned to investigate according to the standardized protocol (Appendix B) and submits diagnostic materials to the USDA's National Veterinary Services Laboratory. Reporting requires the concurrence of the USDA and the State Chief Animal Health Official.

B051 Anthrax (*Bacillus anthracis*)

Standard for Laboratory Testing:

OIE Manual, Ch. 3.1.1.

Reporting Criteria: Presumptive diagnosis is based on compatible clinical signs and demonstration of typical *Bacillus anthracis* organisms on direct microscopic examination of blood smears. Definitive diagnosis requires isolation and identification of the organism by USDA's National Veterinary Services Laboratory and concurrence of the State Chief Animal Health Official and the Federal Area Veterinarian-in-Charge.

B101 Anaplasmosis (*Anaplasma marginale*, *A. centrale*)

Standard for Laboratory Testing:

OIE Manual, Ch. 3.2.7.

Reporting Criteria: Diagnosis can be based on either serology (complement-fixation, card agglutination, IFA, ELISA or rMSP5-cELISA) or identification of the causative organism on Giemsa or Wright's-Giemsa stained blood smear or PCR or nested PCR.



Sample NAHRS Report Form

STATE:	MONTH:	
OIE NUMBER - DISEASE NAME	PRESENT	
BOVINE	YES	NO
A010-A018 Foot and Mouth Disease (FMD, Viruses O, A, C, SAT 1, SAT 2, SAT 3, Asia 1, or not typed)		X
A020-A023 Vesicular Stomatitis (VS, Viruses Indiana, New Jersey, or not typed)		
A040 Rinderpest		X
A060 Contagious Bovine Pleuropneumonia (<i>Mycoplasma mycoides mycoides</i>)		X
A070 Lumpy Skin Disease		X
A080 Rift Valley Fever		X
A090 Bluetongue		
B051 Anthrax (<i>Bacillus anthracis</i>)		
B052 Aujeszky's Disease (Pseudorabies)		



NAHRS Annual Summary

The NAHRS Annual Summary Report includes the following:

An explanation of the nature of the data and how to interpret and use them.

A listing of those diseases considered to be foreign to the US.

A map indicating participating states.

An explanation of the report table.

OIE #	Disease	Presence-Months Jan – Dec, 2001	Report-Months Jan – Dec, 2001
BOVINE			
A010	Foot and mouth disease	0	351
.....			
B051	Anthrax	9	350
...			
B059	Paratuberculosis(Johne's)	210	351
B101	Bovine anaplasmosis	48	351



OIE

- Intergovernmental organization based in France, 162 member countries (U.S. has been reporting for over 25 years). Web site: <http://www.oie.int>
- Missions:
 - To guarantee the transparency of animal disease status world-wide
 - Each member country reports animal diseases that it detects on its territory. The OIE then disseminates the information to other countries, which can take necessary preventive action.



OIE Missions (cont.)

- To collect, analyze and disseminate veterinary scientific information
- To provide expertise and promote international solidarity for the control of animal diseases
- To guarantee the sanitary safety of world trade by developing sanitary rules for international trade in animals and animal products



OIE List A Definition

- List A – transmissible diseases which have the potential for very serious and rapid spread, irrespective of national borders, which are of serious socio-economic or public health consequence and which are of major importance in the international trade of animals and animal products.



OIE List A Diseases Reported to NAHRS

- Foot and mouth disease*
- Vesicular stomatitis
- Swine vesicular disease*
- Rinderpest*
- Peste des petits ruminants*
- Contagious bovine pleuropneumonia*
- Lumpy skin disease*
- Rift Valley fever*
- Bluetongue
- Sheep pox and goat pox*
- African horse sickness*
- African swine fever*
- Classical swine fever*
- Highly pathogenic avian influenza*
- Exotic Newcastle disease*

*FAD (foreign animal disease)



OIE List B Definition

- List B – transmissible diseases which are considered to be of socio-economic and/or public health importance within countries and which are significant in the international trade of animals and animal products.



OIE List B Diseases Reported to NAHRS

- Multiple species
 - Anthrax
 - Aujeszky's disease (Pseudorabies)
 - Echinococcosis/Hydatidosis
 - Heartwater (*Cowdria ruminantium*)*
 - Leptospirosis
 - Q fever (*Coxiella burnetti*)
 - Rabies
 - Paratuberculosis (Johne's Diseases)
 - Screwworm*

* FAD



OIE List B Diseases Reported to NAHRS, continued

■ Cattle

- Bovine anaplasmosis
- Bovine babesiosis*
- Bovine brucellosis
- Bovine genital campylobacteriosis
- Bovine tuberculosis
- Bovine cysticercosis
- Dermatophilosis
- Enzootic bovine leukosis
- Hemorrhagic septicemia
- Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis
- Theileriosis*
- Trichomonosis
- Trypanosomosis*
- Malignant catarrhal fever
- Bovine spongiform encephalopathy*

* FAD



OIE List B Diseases Reported to NAHRS, continued

- Sheep and goats

- Ovine epididymitis
- Caprine and ovine brucellosis
- Caprine arthritis/encephalitis
- Contagious agalactia
- Contagious caprine pleuropneumonia*
- Enzootic abortion of ewes
- Ovine pulmonary adenomatosis
- Nairobi sheep disease*
- *Salmonella abortus o*
- Scrapie
- Maedi-visna

* FAD



OIE List B Diseases Reported to NAHRS, continued

■ Equidae

- Contagious equine metritis
- Dourine* (Trypanasoma)
- Epizootic lymphangitis*
- Equine encephalomyelitis
- Equine infectious anemia
- Equine influenza
- Equine piroplasmosis*
- Equine rhinopneumonitis
- Glanders*
- Horse pox*
- Equine viral arteritis
- Japanese encephalitis*
- Horse mange
- Surra* (Trypanasoma e)
- Venezuelan equine encephalomyelitis*

* FAD



OIE List B Diseases Reported to NAHRS, continued

■ Birds

- Avian infectious bronchitis
- Avian infectious laryngotracheitis
- Avian tuberculosis
- Duck virus hepatitis
- Duck viral enteritis
- Fowl cholera
- Fowl pox
- Fowl typhoid
- Infectious bursal disease
- Marek's disease
- Mycoplasmosis
- Avian chlamydiosis
- Pullorum disease



OIE List B Diseases Reported to NAHRS, continued

■ Fish

- Viral hemorrhagic septicemia
- Spring viremia of carp
- Infectious hematopoietic necrosis
- Epizootic hematopoietic necrosis
- *Onchorynchus Masou* virus disease

■ OIE Shrimp diseases to be added to the NAHRS in 2003?

- Yellow head
- White spot
- Taura syndrome

OIE Animal World Health in 1998

Excerpt from the OIE Animal World Health in 1998, for the United States of America

LIST A AND B DISEASES	OCCUR	SPE	Number of			CONTROL MEASURES	Number of animals			Note No.
			Outbreaks	Cases	Deaths		Destroyed	Slaughtered	Vaccinated	
LIST A Foot and mouth disease	(1929)	***				* Qf Su				2
LIST B Multiple species Anthrax	+()	bov o/c equ sui buf cml fau	V V V	V V V		
Cattle Bovine anaplasmosis	+	bov buf fau				V V			



NAHRS: Benefits

- Help meet trade commitments related to having a national surveillance system
 - Difficult to challenge other countries when we do not have an adequate animal disease reporting system
- Reduce disruption of existing trade and the potential expansion & enhancement of trade.
 - US exports projected at 11.5 billion FY 02**



NAHRS: Benefits (cont.)

- Enhance animal health surveillance and reporting infrastructure—necessary contacts established & enhanced.
 - Intended to be only one part of a comprehensive and integrated animal health information system
- No negative impact of participating in NAHRS has been expressed by states or industry



NAHRS Issues

(Oct 2002 Steering Committee Mtg)

- Critical need to have all 50 states report
 - ▶ USAHA Committee support for implementation in FY 04 of Animal Health Safeguarding Review recommendation # 98: *Direct USDA to clearly define the NAHRS as a cooperative, not voluntary, program for all industries and states that request USDA certification of animal products for export*
- Continue developing cooperative relationships with Regional/Area VS; State Veterinarians; other reporting & surveillance systems and other agencies to improve NAHRS reporting and usefulness
- Continue exploring additional resources and information requirements to improve reporting by states and value to state (Web based?)



NAHRS: Conclusion

- Credible surveillance and reporting provide a solid base for negotiating trade & trade disputes
- Well defined reporting criteria; reviewed by established commodity working groups
- Enhance animal health surveillance and reporting infrastructure
- Confidentiality maintained, no negative impact experienced by states or industries from participating in NAHRS